

REMARKS/ARGUMENTS

The present invention as defined in the pending claims is defined as a toothbrush in pending product claims 1-10, 14-18, 25, 27 and a method in Claims 28-30.

Independent Claims 1, 18 and 27 have been amended to include the structural limitation of the toothbrush head movable from its normal orientation -- at least 10° to its second and inoperable orientation. This limitation was included in original Claim 3, whereby the toothbrush head becomes moved: (a) from a first normal orientation relative to the handle, where the toothbrush is operable (in the normal manner of a standard toothbrush), (b) to a second orientation relative to the handle, where the toothbrush is no longer operable (in the normal manner as a toothbrush). More specifically, in the second orientation the head is at an unnatural and improper angle relative to the handle, such that a user would find the toothbrush awkward or impossible to use. This new toothbrush is effective as a teaching device, in that the user learns dramatically when pressure is excessive, because the toothbrush becomes effectively inoperable.

In a first embodiment, the second position of the head is excessively angled relative to the handle; in a second embodiment the head is loose or floppy between various angles, and again is awkward or impossible to use.

In each of these embodiments the head becomes dislodged from its first orientation, only when the user applies too much force of the head bristles against the teeth or gums. More specifically, the head is connected to the handle by a hinge joint. When the user's force exceeds a predetermined safe or desirable level, the hinge releases and the head moved into its second orientation. Later, the user can manually return the head back to its first orientation, where it will remain until excessive force is applied again.

Applicant now addresses the rejections of these claims. It is respectfully submitted that neither of the two cited references discloses a toothbrush that is rendered inoperative or even too awkward to be operated in the normal sense. On the contrary, Dirksing discloses a head moved merely enough (it appears to be less than one eighth of an inch or about 2 degrees) to signal the user that he or she has exceeded the desired

force range; however, the user can disregard such signal, and is likely to disregard the signal if the user is in a hurry or even believes he or she can compensate with a "lighter touch" without stopping to reset the head. Other users may not even care, and continue brushing with the excessive force, or perhaps not believe the force is excessive.

Claim 1 includes the limitation of movement of at least 10 degrees and the further limitation of "said toothbrush, when its head is in said second orientation being inoperable as a toothbrush." The Dirksing toothbrush, when moved to its unlatched position, is still fully operable and usable as a toothbrush in the normal manner. Furthermore, Dirksing's object is merely to alert the user that excessive pressure has been used, but not to disable the toothbrush. Also, Dirksing moves only about two degrees.

It is respectfully submitted that Dirksing does not meet the literal terms of the rejected claims, and furthermore that it would not be obvious from Dirksing to modify a toothbrush to meet the claims, since Dirksing indicates no awareness of the objective of the present invention, and in fact allows for the opposite.

Rejected Claims 2, 5, and 6 depend on Claim 1 and are similarly not anticipated.

Rejected Claim 27 includes the limitation of the at least ten degree movement and the further limitation of "inoperable", Claims 28 and 29 include the limitation -- "inoperative as so awkward as to effectively prevent further brushing, and Claim 30 includes the limitation automatically disable the toothbrush from further use".

When the Dirksing toothbrush pivots, it is only a small movement, and the toothbrush is still usable in the normal manner. Thus, the toothbrush is not disabled by the excessive force, it is simply altered slightly. This is the principal reason why this toothbrush does not anticipate the Chodorow invention wherein a toothbrush, when pressed too hard on the teeth, will become disabled and no longer functional until it is re-set.

Thus all the claims rejected as anticipated by Dirksing, have structure not present or contemplated by Dirksing.

The rejection of Claims 3,4,7 and 8 as obvious over Hukuba is also respectfully traversed.

Rejected Claims 3,4,7, and 8 all depend on Claim 1 which, as discussed above and include the limitation of at least ten degree movement and the further limitation disablement. Such is neither present is nor contemplated by Hukuba. Accordingly, it is submitted that these claims are not obvious from Hukuba, and reconsideration is respectfully requested.

The Examiner has stated in his Response to Arguments a) that the applicant has not pointed out structural differences, and b) that one person's preferred angular relationship (of the toothbrush head to the handle) is another's inoperative one. As discussed below, applicant respectfully submits that these objections have been fully traversed.

As described herein, applicant respectfully submits that these objections have been fully traversed.

In any event, there are various embodiments disclosed in Hukuba, and none cause the toothbrush to be disabled from functioning properly, because of the force applied. In fact, the object is for the toothbrush, when subject to greater force, to continue but in an altered state.

Original Claim 3 included the limitation of toothbrush orientation change of at least 10°, and Claim 4 recites at least 20°.

The Hukuba patent discloses an electric toothbrush with a reciprocal stroke that is automatically reduced when excessive pressure is applied to the bristles. The electric motor rotates a crank which creates a reciprocal motion of the brush head. The length of the crank are becomes effectively reduced and consequently, the stroke of the reciprocal motor is reduced. However, this toothbrush is not rendered inoperative, or unusable until reset, as in the present claims.

The Hukuba brush moves by an angle Θ whose magnitude is not specified, however, the drawings indicated that Θ is limited to about 5° , and Θ cannot be much more than 5° because a greater stroke would have the brush head banging back and forth dangerously in the mouth and against gums and other teeth. In Hukuba this reciprocation is under power, and thus is potentially dangerous.

In the claim which recite movement of at least 10° such movement is passive and occurs once, until reset, and accordingly is feasible and not dangerous. Also a movement of at least 10° renders the toothbrush awkward or unusable in normal use. In view of these structural and functional distinctions, it is submitted that Hukuba cannot anticipate on render obvious the present claims.

Regardless of all the possible attitudes or actions by the user, neither of these references teaches the rendering of the toothbrush to be inoperative, namely neither teaches a toothbrush that is foolproof against the poor judgment or contrary wishes of the user. These prior toothbrushes merely either signal the user of the excessive force condition, or alter the reciprocal stroke, but do not render the toothbrush inoperable. The present invention defines the new toothbrush of claims 1-9, 14-18, 25 and 27 and the new methods with such toothbrush of claims 28-30.

In view of the amendment and distinctions set forth above, it is respectfully submitted that the rejections under 35 U.S.C. 102 based on Dirksing or Hukuba and under 35 U.S.C. 103 based on Hukuba, are not properly applicable against the pending claims and should be withdrawn.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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